

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM—continued					
<i>Lower Mississippi Basin</i>					
Big Lake: Big Lake Outlet, Ark.....	18	Jan. 26	Jan. 28	18.0	Jan. 26-28.
St. Francis:					
Chaonia, Mo.....	22	Dec. 31	Jan. 2	24.6	Jan. 1.
		Jan. 17	Jan. 20	25.0	Jan. 18.
		Jan. 24	Jan. 24	23.1	Jan. 24.
Fisk, Mo.....	20	Dec. 31	Jan. 5	23.1	Jan. 8.
		Jan. 18	Jan. 27	23.5	Jan. 19.
St. Francis, Ark.....	18	Jan. 5	Feb. 4	21.6	Jan. 23.
		Feb. 22	Feb. 23	18.2	Feb. 22.
Marked Tree, Ark.....	17	Jan. 24	Feb. 12	18.2	Feb. 2-4.
Tallahatchie: Swan Lake, Miss.....	24	Dec. 15	(1)	35.0	Jan. 15.
Yazoo:					
Greenwood, Miss.....	35	Dec. 23	(1)	40.1	Jan. 19, 20.
Yazoo City, Miss.....	23	Dec. 31	(1)	32.0	Feb. 21.
Ouachita:					
Arkadelphia, Ark.....	12	Jan. 5	Jan. 7	21.2	Jan. 6.
		Feb. 17	Feb. 19	19.0	Feb. 17.
Camden, Ark.....	30	Jan. 7	Feb. 4	38.0	Jan. 9.
		Feb. 18	Feb. 26	36.0	Feb. 21.
Monroe, La.....	40	Dec. 25	(1)	49.7	Feb. 2-4.
Black: Jonesville, La.....	50	Jan. 13	(1)	55.6	Mar. 5.
Mississippi:					
New Madrid, Mo.....	34	Jan. 30	Feb. 25	39.0	Feb. 17, 18.
Cottonwood Point, Mo.....	35	Feb. 7	Feb. 28	38.6	Feb. 19.
Memphis, Tenn.....	35	Feb. 4	Feb. 27	38.7	Do.
Helena, Ark.....	44	Jan. 31	(1)	49.2	Feb. 22.
Arkansas City, Ark.....	48	Jan. 28	(1)	53.4	Feb. 25, 26.
Greenville, Miss.....	42	Jan. 30	(1)	47.0	Feb. 26, 27.
Vicksburg, Miss.....	45	Jan. 28	(1)	51.9	Feb. 28, 29.
Natchez, Miss.....	46	Feb. 1	(1)	52.5	Feb. 29.
Angola, La.....	45	do.....	(1)	51.7	Do.
Baton Rouge, La.....	35	do.....	(1)	42.1	Do.
Plaquemine, La.....	31	do.....	(1)	37.6	Do.
Donaldsonville, La.....	28	Feb. 4	(1)	33.0	Do.
Reserve, La.....	22	Feb. 8	(1)	24.8	Do.
New Orleans, La.....	17	Feb. 10	(1)	18.7	Do.
<i>Atchafalaya Basin</i>					
Atchafalaya:					
Simmesport, La.....	41	Feb. 3	(1)	47.0	Do.
Melville, La.....	37	Jan. 30	(1)	42.3	Do.
Atchafalaya, La.....	22	Dec. 27	(1)	24.8	Do.

¹ Continued into March.

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
WEST GULF OF MEXICO DRAINAGE					
<i>Neches:</i>					
Rockland, Tex.....	22	Jan. 15	Jan. 16	22.5	Jan. 15.
		Jan. 20	Feb. 2	24.8	Jan. 30.
		Feb. 22	Mar. 4	26.8	Feb. 24.
Beaumont, Tex.....	7	Feb. 4	Feb. 5	7.2	Feb. 4.
		Feb. 29	Mar. 10	9.0	Mar. 4.
<i>Sabine:</i>					
Logansport, La.....	25	Jan. 7	Feb. 12	32.6	Jan. 21.
		Feb. 20	Mar. 16	35.5	Feb. 23.
Bon Wier, Tex.....	21	Jan. 16	Feb. 13	22.6	Feb. 1-3.
		Feb. 23	Mar. 10	22.7	Feb. 29.
Orange, Tex.....	4	Jan. 23	Feb. 13	4.8	Feb. 4-7.
		Feb. 22	Mar. 11	5.2	Mar. 4.
West Fork: Fort Worth, Tex.....	20	Jan. 16	Jan. 17	22.5	Jan. 16.
		Jan. 22	Jan. 23	30.0	Jan. 22.
		Feb. 16	Feb. 16	22.8	Feb. 16.
Elm Fork: Carrollton, Tex.....	7	Jan. 17	Jan. 18	8.7	Jan. 18.
		Feb. 17	Feb. 19	10.8	Jan. 23.
		Feb. 23	Feb. 23	9.5	Feb. 17.
<i>Trinity:</i>					
Dallas, Tex.....	28	Jan. 6	Jan. 7	30.4	Jan. 6.
		Jan. 13	Jan. 13	30.0	Jan. 13.
		Jan. 17	Jan. 31	38.7	Jan. 23.
		Feb. 16	(1)	36.8	Feb. 18.
Trinidad, Tex.....	28	Jan. 6	Feb. 7	41.2	Jan. 29.
		Feb. 19	(1)	40.0	Feb. 24.
Long Lake, Tex.....	40	Jan. 9	Jan. 20	43.0	Jan. 12.
		Jan. 30	Feb. 10	44.0	Feb. 2.
Liberty, Tex.....	25	Jan. 21	Mar. 14	44.3	Feb. 25, 26.
Brazos: Waco, Tex.....	27	Jan. 9	(1)	27.8	Feb. 27-29.
Guadalupe:					
Gonzales, Tex.....	17	Jan. 6	Jan. 6	18.0	Jan. 6.
Victoria, Tex.....	21	Jan. 8	Jan. 9	23.1	Jan. 9.
GULF OF CALIFORNIA DRAINAGE					
Salt: Phoenix, Ariz.....	5	Feb. 10	Feb. 12	9.9	Feb. 11.
Gila: Kelvin, Ariz.....	5	do.....	Feb. 10	6.1	Feb. 10.
PACIFIC SLOPE DRAINAGE					
<i>Columbia Basin</i>					
Long Tom: Monroe, Oreg.....	10	Dec. 21	Jan. 4	13.0	Dec. 28.
		Jan. 17	Jan. 23	12.5	Jan. 20.
Yamhill: McMinnville, Oreg.....	35	Jan. 19	Jan. 20	36.7	Jan. 19.

¹ Continued into March.

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

[The Marine Division, F. A. YOUNG, temporarily in charge]

NORTH ATLANTIC OCEAN

By F. A. YOUNG

Pressure.—A glance at Table 1 will give an idea of the most unusual distribution of pressure over the eastern section of the ocean during February, 1932. The positive departures of 0.77 inch, 0.75 inch, and 0.60 inch at Reykjavik, Lerwick, and Valencia, respectively, show that during the greater part of the month pronounced anticyclonic conditions prevailed over the region usually occupied by the Icelandic Low, while a negative departure of 0.30 inch at Horta indicates a weakening of the Atlantic HIGH. The weather conditions in the waters between the positions usually occupied by these two centers of action must have been most confusing to the seaman, as in place of the usual "westerlies," easterly winds prevailed during the greater part of the month over the eastern portion of the southern steamer lanes.

Over the western section of the ocean the average pressure conditions were more nearly normal as indicated by the comparatively small departures at stations on the American Atlantic and Gulf coasts, although there were the usual rapid changes of pressure from day to day at the Canadian stations.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, February, 1932

Station	Average pressure	Departure	Highest	Date	Lowest	Date
Julianehaab, Greenland ¹	Inches 29.69	Inch (?)	Inches 30.34		Inches 29.02	7
Reykjavik, Iceland ¹	30.31	+0.77	30.84	9	29.66	18
Lerwick, Shetland Islands ¹	30.47	+0.75	30.87	11	30.11	7
Valencia, Ireland ¹	30.50	+0.60	30.84	20	30.13	7
Lisbon, Portugal ¹	30.06	-0.04	30.42	21	29.53	29
Madeira ¹	29.96	-0.11	30.26	1	29.64	26
Horta, Azores ¹	29.85	-0.30	30.13	6	29.47	14
Belle Isle, Newfoundland ¹	29.70	-0.05	30.48	9	29.22	20
Hallifax, Nova Scotia ¹	29.88	-0.03	30.44	12	29.24	18
Nantucket ¹	29.95	-0.09	30.55	2	29.24	18
Hatteras ¹	30.05	-0.11	30.66	1	28.96	5
Bermuda ¹	30.02	-0.10	30.44	1	29.47	28
Turks Island ¹	30.06	+0.01	30.20	1	29.22	29
Key West ¹	30.05	-0.02	30.29	4	29.86	29
New Orleans ¹	30.05	-0.04	30.48	1	29.84	28
Cape Gracias, Nicaragua ¹	29.94	-0.05	30.02	1	29.76	21
				4	28.88	4

¹ All data based on a. m. observations only, with departures compiled from best available normals related to time of observations.

² No normal available.

³ Corrected 24-hour means, based on more than 1 observation.

⁴ And on other dates.

Cyclones and gales.—The month of February is normally one of the stormiest of the year, and over the greater

part of the ocean, west of the thirtieth meridian, the number of days with gales, as well as their severity was fully as great as usual, the storm area in some cases extending as far south as the thirtieth parallel, while the American S. S. *Mobile City* reported a moderate gale not far from the Canal Zone.

Due to the persistent high-pressure area off the European coast, there were comparatively few gales over the eastern section of the steamer lanes, as they were not reported on more than two days in any 5° square in that region. As shown in table of gales, the Belgian S. S. *Mahagi*, while in 42° 40' N., 9° 35' W., reported a northeasterly wind, force 11, with a lowest barometer of 30.26 inches. This is most unusual, as it is seldom that an anticyclonic wind of such force is encountered, except at times during a "norther" in the Gulf of Mexico.

Charts VIII to XI cover the period from the 3d to the 6th inclusive, where the severest storms of the month occurred, although there were other periods of heavy weather, especially on the 23d.

Fog.—Fog was scarce over the greater part of the ocean, and the number of days on which it was reported in different localities is as follows: Over the Grand Banks, on 4 days; along the American coast between the thirty-

fifth and forty-fifth parallels, from 6 to 7 days; in the western section of the Gulf of Mexico, on 5 days; over the steamer lanes, east of the forty-fifth meridian, on 1 day in the 5° square between 50 to 55 N., and 35 to 40 W.; 1 day off the west coast of England.

According to the New York Maritime Register, there were a number of casualties during the month due to the weather. The Danish S. S. *Aggersund* was abandoned on February 28 while in 53° N., 42° W., the crew being taken aboard the Swedish M. S. *Blankenholm*. A dispatch from Antwerp on the 11th states that the American S. S. *City of Alton*, from Boston reports having shipped heavy seas during the voyage, the deckload being shifted and damage caused to fittings, life boats, etc. The Italian S. S. *Conte Biancamano* which arrived in New York from Naples on the 23d met with heavy weather during the voyage, and was placed in dry dock the same night. It was reported that several plates in the bottom would be treated, and also some rivets refastened.

Waterspout.—*El Occidente*, American steamship, Capt. E. S. Campbell, observer A. S. Pedersen, Galveston to New York. In latitude 29° 00' N., longitude 79° 45' W., 5.30 p. m. on the 20th saw two waterspouts about 5 miles west of position, 1 large and 1 medium size.

OCEAN GALES AND STORMS, FEBRUARY, 1932

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Direction and highest force of wind	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN													
Boniface, Br. S. S.	Hull	Para.	29 10 N	27 49 W	Feb. 1	6 a., 1	Feb. 2	29.61	SW	W, 3	WNW	WNW, 8	S-W-WNW.
Comanche, Br. S. S.	London	Baytown	34 35 N	49 08 W	do	Noon, 1	do	29.75	W	W, 10	N	WNW, 10	W-NW-N.
Tuscarora, Br. S. S.	New Orleans	Belfast	35 25 N	50 57 W	Feb. 2	8 a., 2	Feb. 3	29.93	NNW	NNW, 10	NW	—, 10	NNW-NW-NNW
Illinois, Am. S. S.	Port Arthur	Amsterdam	42 10 N	30 50 W	do	10 a., 2	do	29.83	ESE	ESE, 10	ESE	ESE, 10	Steady.
Wilhelm A. Rledemann, Danzig, M. S.	Falmouth	Cartagena	38 18 N	40 12 W	do	4 p., 2	do	29.40	WSW	WSW, 7	NW	NNW, 11	
Mobile City, Am. S. S.	Canal Zone	London	12 04 N	77 04 W	do	do	Feb. 2	29.83	NNE	ENE, 7	ENE	NE, 8	NNE-ENE.
Savoia, Ital. S. S.	Genoa	Philadelphia	35 00 N	51 00 W	do	4 p., 3	Feb. 4	29.71	NW	SW, 9	NW	SW, 10	
Cameronia, Br. S. S.	Glasgow	New York	49 47 N	40 15 W	do	11 a., 3	do	28.88	SSE	NNW, 9	NW	NW, 10	SE-W-NNW.
Hoxie, Am. S. S.	New York	Glasgow	50 35 N	33 00 W	do	10 p., 3	Feb. 3	28.92	SSE	S, 12	WSW	S, 12	SSE-S-WSW.
West Hika, Am. S. S.	Antwerp	Tampa	37 56 N	27 46 W	Feb. 3	Noon, 3	Feb. 4	29.60	S	W	SSW, 10	SSW, 10	S-WNW.
Fred W. Waller, Am. S. S.	Baytown	Baltimore	34 48 N	75 18 W	Feb. 4	9 p., 4	Feb. 5	29.66	SW	WSW, 8	NW	WSW, 9	W-NW.
Spur, Du. S. S.	Emden	Portland, Me.	34 36 N	46 32 W	do	4 p., 4	do	29.64	SW	SW, 9	NNW	SW, 10	SW-WNW.
Nickerie, Du. S. S.	Madeira	Quessant	35 38 N	14 37 W	do	8 p., 4	do	30.09	NW	NW, 6	NW	WNW, 8	NW-N.
Atlantian, Br. S. S.	Norfolk	Liverpool	39 28 N	61 48 W	do	10 a., 5	Feb. 6	29.06	S	SW, 9	NNW	—, 9	SSW-NNW
Cameronia, Br. S. S.	Glasgow	New York	45 10 N	56 45 W	Feb. 5	10 p., 5	do	29.32	SE	SE, 4	NW	NW, 10	E-Var-NNW.
Bremen, Ger. S. S.	New York	Cherbourg	42 10 N	53 10 W	do	5 p., 5	do	29.01	SSE	SSE, 11	SSW	S, 12	SE-S.
Colombia, Du. M. S.	King's Lighthouse Channel	Barbados	33 45 N	37 56 W	do	10 a., 5	Feb. 5	29.49	SSW	W, 9	NNW	—, 9	SW-W.
Europa, Ger. S. S.	Cherbourg	New York	45 08 N	43 47 W	Feb. 6	Noon, 6	Feb. 7	29.26	E	S, 9	W	—, 11	
Frederik VIII, Dan. S. S.	Oslo	do	46 20 N	52 40 W	Feb. 5	6 a., 6	Feb. 6	28.61	E	SE, 7	W	WNW, 11	SE-S-NNW.
Gateway City, Am. S. S.	Liverpool	Mobile	34 00 N	25 40 W	Feb. 6	4 p., 6	Feb. 7	29.84	S	S, 7	W	SSE, 8	S-SW.
Hoxie, Am. S. S.	New York	Glasgow	54 22 N	20 11 W	do	8 a., 6	Feb. 6	29.60	SSE	S, 7	N	S, 9	SSE-S-N.
Nevada, Dan. S. S.	do	Copenhagen	54 13 N	32 32 W	do	4 a., 7	Feb. 8	29.68	SE	SE, 10	SSE	SE, 10	
Lepanto, Br. S. S.	Hull	Boston	44 37 N	45 20 W	Feb. 9	10 p., 9	Feb. 9	29.65	SW	S, 10	SW	S, 10	SW-S-W.
Mopan, Br. S. S.	Santa Marta	Rotterdam	46 30 N	23 18 W	Feb. 10	11 p., 10	Feb. 11	29.66	NNE	NNE, 7	ENE	NE, 8	NNE-E.
City of Bagdad, Br. S. S.	New York	Port Said	39 58 N	62 00 W	Feb. 11	4 p., 11	Feb. 12	29.90	S	SSE, 8	S	—, 8	
Delhi, Du. S. S.	Sabang	London	43 08 N	9 23 W	do	Noon, 11	Feb. 13	—	ENE	E, 3	E	E, 9	Steady.
Pologne, Fr. S. S.	Bordeaux	San Juan	26 48 N	42 57 W	Feb. 12	3 a., 13	do	—	ESE	ENE, 8	NNE	ENE, 8	
Europa, Ger. S. S.	New York	British Channel	47 51 N	31 16 W	Feb. 14	2 a., 15	Feb. 15	29.46	E	SSE, 10	SSE	SSE, 11	
Monifore, Ital. S. S.	Palermo	Pensacola	31 38 N	23 25 W	do	—, 15	Feb. 17	29.77	SE	S, 8	WNW	WSW, 8	
Liberty Glo, Am. S. S.	Antwerp	Charleston	34 16 N	59 15 W	Feb. 16	10 a., 16	do	29.63	W	W, 7	N	NW, 9	W-NW.
Shloksimny, Am. S. S.	Manchester	do	35 00 N	51 41 W	do	Noon, 16	Feb. 21	29.12	SSW	W, 6	NW	WNW, 11	
Escambia, Ital. S. S.	Genoa	Pensacola	27 40 N	51 30 W	do	2 a., 17	Feb. 18	29.63	WNW	WNW, 7	W	NW, 8	NW-NNW.
Dordrecht, Du. S. S.	Baytown	Manchester	38 10 N	66 32 W	Feb. 18	6 p., 18	Feb. 20	29.55	NW	NW, 8	NNW	NW, 9	NW-NNW.
Titus, Du. S. S.	Puerto Barrios	Amsterdam	39 30 N	52 00 W	do	4 p., 18	Feb. 19	28.84	SW	S, 9	W	S, 9	S-SW-W.
Oranian, Br. S. S.	Liverpool	Boston	47 47 N	36 22 W	do	5 p., 18	Feb. 18	29.36	ESE	ESE, 8	SW	S, 9	ESE-SW.
Exeter, Am. S. S.	Marseille	New York	37 12 N	41 18 W	do	3 p., 19	Feb. 20	29.44	SW	S, 8	SW	W, 10	S-W.
Jean Jadot, Belg. S. S.	New York	Antwerp	39 54 N	64 14 W	do	Noon, 20	do	28.39	NW	NNW, 4	NNW	NW, 9	NW-NNW.
Quaker City, Am. S. S.	Boston	Dundee	51 55 N	41 41 W	Feb. 20	7 a., 20	Feb. 22	29.23	E	E, 8	SE	ESE, 10	
Waukegan, Am. S. S.	Havre	New York	43 52 N	46 00 W	Feb. 21	Noon, 21	Feb. 21	29.02	N	N, 8	NNW	NNW, 10	NE-N-NNW.
Sagaporack, Am. S. S.	Hovanger, Norway	Portland, Me.	45 45 N	44 20 W	do	6 p., 21	Feb. 22	28.65	E	W, 9	W	WNW, 11	SE-S-W-WNW
Monifore, Ital. S. S.	Palermo	Pensacola	29 00 N	42 20 W	do	—, 21	do	29.69	W	W, 9	NW	—, 9	
Mahagi, Belg. S. S.	Lobito Bay	Rotterdam	42 40 N	9 35 W	do	11 a., 21	do	30.26	NE	NE, 8	NNE	NE, 11	Steady.
West Selene, Am. S. S.	Santos	Boston	32 50 N	65 30 W	Feb. 22	6 p., 22	Feb. 23	29.73	SW	SW, 10	WNW	SW, 10	Do.
Quaker City, Am. S. S.	Casablanca	New York	36 22 N	38 10 W	Feb. 21	4 a., 22	Feb. 26	29.49	S	WSW, 8	NNW	—, 9	SW-WSW.
Hoxie, Am. S. S.	Avonmouth	Baltimore	44 48 N	50 20 W	Feb. 19	1 p., 23	Feb. 23	28.70	SE	NE, 10	N	N, 11	NE-N.
Europa, Ger. S. S.	British Channel	New York	44 24 N	47 31 W	Feb. 22	4 p., 23	do	28.42	SE	SSW, 12	W	—, 12	S-SW.